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4.10 System Engineering

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Systems engineering management is conducted and documented throughout the lifecycle management process at all levels of management and integration, from individual investment programs to the National Airspace System as a whole. At the NAS-level, systems engineering management integrates across investment programs to achieve an efficient and fully interoperable National Airspace System. At the program level, it optimizes performance, benefits, operations, and lifecycle cost.

All organizations responsible for the development, implementation, and lifecycle management of FAA investment programs must develop and institute a systems engineering management program consistent with guidance in FAST [[system engineering guidance](#)]. This includes organizations responsible for integrating investment programs into larger "system of systems" such as the National Airspace System. The systems engineering management program of each organization must apply systems engineering activities such as functional analysis, requirements management, synthesis, and validation and verification throughout the lifecycle management process, consistent with the specific functions and responsibilities of the organization.